

Using Administrative Data with Survey Data to Measure Occupational Health

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What is the SOII?

- Survey of Occupational illnesses and Injuries
- Result of the 1970 Occupational Safety and Health Act
- Jointly funded by the Federal government and 41 states
- Only comprehensive measure of occupational injuries and illnesses in the US



SOII

- Large national survey of employers
 - ▶ Statistically-designed sample
 - ▶ 90%+ response rate
 - ▶ Data from OSHA-required summary and case forms
- It produces a wealth of annual data
 - ▶ Comparable National and State estimates
 - ▶ Source of much “common wisdom” about workplace injuries and illnesses



Common wisdom based on the SOII

- Rates of injuries and illnesses differ by age.
- Older workers have lower rates of injuries and illnesses but are away from work to recover longer than younger workers.
- Men are at higher risk at work than women.
- Rates differ by race and ethnicity.
- And more...



What the SOII produces

- Counts and rates of nonfatal injuries and illnesses by occupation, industry, state, employer size, type of case
24,000 estimates/year
- Wealth of detail on case circumstances (nature of injury or illness, part of body affected, event, source) as well as worker characteristics (age, gender, race & ethnicity, job tenure) **2,100,000 estimates/year**



Who uses the SOII?

- People use the SOII to prevent future occupational injuries and illnesses--
 - ▶ **Employers** and **Unions** identify possible safety and health issues that need to be addressed
 - ▶ **Policymakers** and **Researchers** can focus attention and resources on key issues
 - ▶ **Press** focuses attention on occupational events
 - ▶ **Safety inspectors** need to know how best to allocate their time among and within establishments.
 - ▶ **OSHA** focuses their enforcement activities where it can do the most good



OSHA Recordkeeping Rule

- Many employers are required, by law, to keep a record of each serious work-related injury and illness
- A summary of these injuries and illnesses must be posted onsite by the employer
- Establishments who are sampled for the SOII provide these data, usually electronically, to the BLS.



New OSHA Recordkeeping Rule

- “...requires employers in certain industries to **electronically** submit to OSHA injury and illness data that employers are **already** required to keep...”
- OSHA will provide a secure website for data submission.
- Effective January 1, 2017



Why the new rule?

David Michaels, Assistant Secretary of Labor for OSHA—

"Our new rule will 'nudge' employers to prevent work injuries...Access to injury data will also help OSHA better target compliance assistance and enforcement resources, and enable 'big data' researchers to apply their skills to making workplaces safer."



Overlap with the SOII

- About 40 percent of SOII establishments are in scope for the new OSHA rules
- About 60 percent of SOII employees are in scope
- Confidential Information Protection and Statistical Efficiency Act (CIPSEA)
- Duplicate Reporting and Respondent Burden

Overlap with the SOII

- OMB required DOL to reduce reporting burden on establishments
- BLS agreed to evaluate the use of OSHA-collected data in the SOII



How might BLS use OSHA data?

- Sample SOII as done now and match OSHA-collected data to overlapping SOII establishments
- Combine OSHA-collected data (administrative) with SOII survey data to produce composite estimates
- Additional hybrid approaches may be considered as we learn more

BLS/OSHA workgroup

- Workgroup composed of BLS'ers and OSHA representatives
- BLS sharing its expertise in developing web-based data capture systems
 - ▶ Collection processes & experiences (large employers)
 - ▶ Data editing/validation
 - ▶ Database architecture

Administrative Data

- Internal BLS workgroup
- Could we use OSHA-collected administrative data without establishment matching?
- Limited experience using administrative data in conjunction with survey data
- Conversations with Census (Raghunathan method)

Administrative Data

- Simulate to assess viability of methods for merging SOII and OSHA data under different assumptions of OSHA data quality



Potential benefits

- Possible reduction in size of SOII sample
- Reduced respondent burden
- Potential new ways to create statistically valid estimates
- Better meet the needs of the safety and health community



Some Challenges

- Tension between regulatory & statistical use of data
 - ▶ Ensuring BLS needs to match OSHA data with SOII
- Merging administrative & survey data
 - ▶ “We don’t know what we don’t know”
- Time necessary to do this work



More Challenges

- Response rate, completeness, and accuracy of OSHA-collected data unknown
- Collection and publication timing
- Coding
 - ▶ Computer-assisted coding is powerful...but not a panacea
- Break in series, but not a break in scope

Conclusion

- Lots of opportunities to better meet the needs of the safety and health community
- Lots of challenges still to overcome



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